

ABSTRACT OF THE DISCLOSURE

A plant and process for efficient production of low deuterium water from seawater. The plant includes a solar still with a black pan for collecting solar heat, that vaporizes portions of the seawater and a porous sloped membrane positioned over the black pan to collect and condense the vapor and to direct the condensate via gravity to a condensate tank. The condensate water is separated into its atomic components, hydrogen and oxygen, in an electralizer; then the hydrogen and oxygen are combined in a reactor to produce heat and low deuterium water. In preferred embodiments the reactor is a fuel cell which in addition to the heat and water also produces electricity. At least a portion of the heat produced in the reactor is used in the solar still to assist in the vaporization of the seawater and to greatly increase the efficiency of the still.